

### REMARKS

In the Office Action dated June 4, 2004, claims 1, 7, 9, 47, and 49 were objected to; claims 1-6, 15-19, 40, 41, 45, 48, and 49 were rejected under 35 U.S.C. § 102 over U.S. Patent No. 6,512,756 (Mustajarvi); claims 7, 8, 46, and 47 were rejected under § 103 over Mustajarvi in view of U.S. Patent No. 6,456,627 (Frodigh); claim 9 was rejected under § 103 over Mustajarvi in view of Frodigh and U.S. Patent No. 5,815,495 (Saitoh); claim 10 was rejected under § 103 over Mustajarvi in view of Frodigh, Saitoh, and U.S. Patent No. 6,584,098 (Dutnall); claims 20 and 21 were rejected under § 103 over Mustajarvi in view of U.S. Patent No. 6,320,873 (Nevo); and claims 42-44 were rejected under § 103 over Mustajarvi in view of U.S. Patent No. 6,728,268 (Bird).

Contrary to the assertion in the Office Action, the language “adapted to” is not improper. M.P.E.P. § 2106 does not prohibit the use of the term “adapted to.” In fact, courts have approved the use of “adapted to” as providing structural limitations. *See In re Venezia*, 189 U.S.P.Q. 149, 151-152 (C.C.P.A. 1976) (“Rather than being a mere direction of activities to take place in the future, this language [“adapted to”] imparts a structural limitation ...”). The court in *In re Venezia* stated that there is “nothing wrong in defining the structures of the components ... in terms of the interrelationship of the components.” *Id.* at 152.

Withdrawal of the rejection based on the language “adapted to” is respectfully requested.

With respect to claim 1, Mustajarvi does not teach a controller to transmit and receive data through an interface over a network with a *base station system* according to a *packet-switched protocol*. The Office Action cited column 1, lines 33-45 and column 2, lines 25-28, of Mustajarvi as teaching a BSC that “provides packet-switched data transmission between a support node (SGSN) and mobile data terminals. 6/4/2004 Office Action at 3. While it is true that packet data exchanged between an SGSN and a mobile node flows through a base station, the communication network between the SGSN and base station of Mustajarvi is clearly *not* according to a packet-switched protocol. Rather, as expressly taught by Mustajarvi, communication over the network (Gb interface) between the SGSN and base station is according to a Frame Relay protocol. Mustajarvi,

2:18-20, 25-28. The Office Action stated that Frame Relay is a packet-switched protocol that is used over the Gb interface between an SGSN and a BSC. 6/4/2004 Office Action at 3. Applicant respectfully disagrees, as such an assertion is contrary to understandings of "packet-switched protocol" by persons of ordinary skill in the art. By definition, a packet-switched protocol is a connectionless protocol. The definition of the packet-switched protocol is provided by the present specification. *See, e.g.*, Specification, p. 5, ll. 11-18. In fact, the present specification explicitly states that a Frame Relay network differs from a packet-switched network, since a Frame Relay network is connection-oriented. *See* Specification, p. 5, ll. 19-23. This understanding of the term "packet-switched" is consistent with the definition of the term by persons of ordinary skill in the art. *See, e.g.*, techdictionary.com, <http://www.techdictionary.com> (defining "packet-switched network" as a network that does not establish a dedicated path through the network but, instead, transmits data in units called packets in a connectionless manner) (attached with previous Reply to Office Action).

Figure 2 of Mustajarvi illustrates best the fact that although packet data can be exchanged between the mobile station and the SGSN, the communication between the SGSN and base station system (BSS) *cannot* be according to a packet-switched protocol. The mobile station and SGSN each includes an L3MM layer above the SNDCP layer. As taught by Mustajarvi, the L3MM layer can be replaced with an IP layer. Thus, if L3MM in Figure 2 of Mustajarvi is replaced with IP, then IP packets can be communicated between the mobile station and the SGSN. However, the fact that the mobile station and SGSN are able to communicate IP data does not change the fact that the base station system does *not* have the necessary upper protocol layers to enable communication between the SGSN and base station system according to a packet-switched protocol such as IP. The protocol stack of the Gb interface between the base station system and the SGSN includes an L1 layer, a Frame Relay layer, and a BSSGP layer. There are *no* other layers in the Gb interface taught by Mustajarvi.

The protocol stack between the base station system and the SGSN of Mustajarvi is contrasted with a protocol stack illustrated in Figure 4 of the specification of the present application, which depicts one embodiment of the invention in which packet-switched protocol communications can occur between the base station system and

the SGSN. As depicted in Figure 4 of the present application, an IP layer is defined as part of the protocol stack in the Gb interface between the base station system and the SGSN. Applicant notes that the Figure 4 arrangement is merely an embodiment of the invention. However, citation to Figure 4 provides an illustration of how different the claimed invention is from the teachings of Mustajarvi, where only Frame Relay communications can occur between the base station system and the SGSN.

In view of the foregoing, it is respectfully submitted that Mustajarvi does not disclose the subject matter of claim 1.

Claims dependent from claim 1 are allowable for at least reasons. Moreover, claim 2 recites that the packet-switched protocol comprises a connectionless, packet-based protocol. A Frame Relay protocol *clearly* is not a connectionless protocol, but rather is a connection-oriented protocol.

Claim 42, which depends indirectly from claim 1, was rejected as being obvious over Mustajarvi and Bird. The hypothetical combination of Mustajarvi and Bird does not disclose an Internet Protocol layer of a system to communicate over a Gb network with an Internet Protocol layer of the base station system. Therefore, claim 42 is not obvious over Mustajarvi and Bird.

With respect to claim 3, Mustajarvi does not disclose a controller that is adapted to transmit and receive data through the interface over the network with the base station system according to a packet-switched protocol that is an Internet Protocol. Figure 2 of Mustajarvi illustrates that the Gb interface does not include an Internet Protocol layer to enable communication through the Gb interface according to the Internet Protocol.

Independent claim 15 is allowable over Mustajarvi, since Mustajarvi fails to disclose a method of communicating in a mobile communication system having a base station system, a system controller, and an interface between the base station system and the system controller, where the method includes transmitting and receiving data packets over the interface between the base station system and system controller according to a packet-switched protocol. Claims dependent from claim 15, including new claim 51, are allowable for at least the same reasons.

Independent claim 18 is also allowable over Mustajarvi, which fails to disclose to a serving General Packet Radio Service support node that has an interface to one or more

networks coupled to base station systems, wherein the interface comprises a packet-switched element to manage communication according to a packet-switched protocol over a network between the GPRS support node and at least one of the base station systems.

Claims dependent from claim 18 are allowable for at least the same reasons.

Independent claim 7 was rejected as being obvious over the asserted combination of Mustajarvi and Frodigh. It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 7, for at least the reason that even if the references can be combined, the hypothetical combination of Mustajarvi and Frodigh does not teach or suggest *all elements* of claim 7. The Office Action identified the node of claim 7 as made up of the base station controller (BSC) and base transceiver system (BTS) in Mustajarvi. However, contrary to the erroneous statement made by the Office Action, the BSC depicted in Mustajarvi communicates over a Gb interface with the SGSN, where communication over the Gb interface is according to Frame Relay protocol, not a packet-switched protocol. Therefore, it is respectfully submitted that the hypothetical combination of Mustajarvi and Frodigh fails to disclose or suggest all elements of claim 7.


Claims dependent from claim 7, including newly added claim 50, are allowable for at least the same reasons.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees, including extension of time fees, and/or credit any overpayment to Deposit Account No. 20-1504 (NRT.0027US).

Respectfully submitted,

Date:

Sep. 2, 2004

  
\_\_\_\_\_  
Dan C. Hu, Reg. No. 40,025  
TROP, PRUNER & HU, P.C.  
8554 Katy Freeway, Suite 100  
Houston, TX 77024  
713/468-8880 [Ph]  
713/468-8883 [Fax]